IN THE CLAIMS:

1. (Currently Amended) A method for facilitating a reduction in motion artifacts, said method comprising comparing two sequential scanned images with an edge recognition program to determine motion.

2. (Cancelled)

3. (Currently Amended) A method in accordance with ~~Claim 2~~ Claim 1 further comprising developing a velocity image which shows a velocity vector for each pixel in an average image based on comparison of edge motions between the two original images.

4. (Original) A method in accordance with Claim 3 further comprising using the velocity image to compute a time-interpolated sinogram at a specific intermediate time.

5. (Original) A method in accordance with Claim 4 further comprising reconstructing an image using the interpolated sinogram.

6. (Currently Amended) A method in accordance with Claim 1, wherein said comparing further comprises comparing two sequential images to ~~estimate motion and~~ generate a warped image grid.

7. (Currently Amended) A method in accordance with Claim 1, wherein said comparing further comprises comparing two sequential images to determine a plurality of velocity vectors.

8. (Original) A method in accordance with Claim 7 further comprising using the velocity vectors to calculate a deltaH(t) for each pixel where deltaH(t) is a time variation of intensity in CT numbers as caused by motion.

9. (Currently Amended) A method for facilitating a reduction in motion artifacts, said method comprising comparing two sequential scanned images to determine motion ~~A method in accordance with Claim 1, wherein said comparing comprises comparing two sequential images to determine motion~~ using an mpeg motion predictor.

10. (Currently Amended) A method for facilitating a reduction in motion artifacts, said method comprising comparing two sequential scanned images to determine motion and ~~A method in accordance with Claim 1, wherein said comparing comprises comparing two sequential images~~ to generate an intermediate image representative of motion required to blend one said sequential image into the other said sequential image.

11. (Original) A method in accordance with Claim 10 further comprising forward projecting the intermediate image to produce a corrected projection.

12. (Original) A method in accordance with Claim 10 further comprising:

generating a set of image correction values referenced by time using the intermediate image;

forward projecting the generated set to produce a correction raw data set;

reconstructing a correction image using the correction raw data set; and

adding the correction image to an image to be corrected to produce a first corrected image.

13. (Original) A method in accordance with Claim 12 further comprising:

producing a second corrected image;

comparing the first and second corrected images to generate an intermediate corrected image representative of motion required to blend the first corrected image into the second corrected image; and

using the intermediate corrected image to further correct the first corrected image.

14. (Original) A method for facilitating a reduction in motion artifacts, said method comprising:

estimating a velocity of at least one pixel of a first image by comparing the first image with a second image; and

correcting a sinogram using the estimated velocity.

15. (Original) A method in accordance with Claim 14 further comprising:

generating a first corrected image using the corrected sinogram;

estimating a velocity of at least one pixel of the first corrected image by comparing the first corrected image with a third image comprising a corrected image;

correcting a sinogram using the estimated velocity of the at least one pixel of the first corrected image.

16. (Original) A method for facilitating a reduction in motion artifacts, said method comprising:

generating a velocity vector for each of a plurality of pixels of a first image; and

calculating a deltaH(t) for each pixel where deltaH(t) is a time variation of intensity in CT numbers as caused by motion.

17. (Original) A method in accordance with Claim 16 further comprising:

forward projecting the deltaH(t)s to produce projection corrections for each line of a sinogram as a function of time; and

reconstructing a second image using the corrected sinogram.

18. (Original) A method in accordance with Claim 16 further comprising:

forward projecting the deltaH(t)s to generate a deltaH(t) sinogram;

reconstructing a second image using the deltaH(t) sinogram; and

adding the second image to the first image to generate a corrected image.

19. (Currently Amended) A computer configured to compare two sequential scanned images with an edge recognition program to determine motion and generate a warped image grid.

20. (Cancelled)

21. (Currently Amended) A computer in accordance with ~~Claim 20~~ Claim 19 further configured to develop a velocity image, which shows a velocity vector for each pixel in an average image, based on comparison of edge motions between the two original sequential scanned images.

22. (Original) A computer in accordance with Claim 21 further configured to use the velocity image to compute a time-interpolated sinogram at a specific intermediate time.

23. (Original) A computer in accordance with Claim 22 further configured to reconstruct an image using the interpolated sinogram.

24. (Original) A computer in accordance with Claim 19 further configured to compare two sequential images to determine a plurality of velocity vectors.

25. (Original) A computer in accordance with Claim 24 further configured to use the velocity vectors to calculate a deltaH(t) for each pixel where deltaH(t) is a time variation of intensity in CT numbers as caused by motion.

26. (Currently Amended) A computer configured to compare two sequential scanned images to determine motion, generate a warped image grid, and ~~A computer in accordance with Claim 19 further configured to compare two sequential images~~ to generate an intermediate image representative of motion required to blend one said sequential scanned image into the other said sequential scanned image.

27. (Original) A computer in accordance with Claim 26 further configured to forward project the intermediate image to produce a corrected projection.

28. (Currently Amended) A computer configured to compare two sequential scanned images to determine motion and generate a warped image grid and ~~A computer in accordance with Claim 19~~ further configured to:

generate a set of image correction values referenced by time ~~using the~~ using an intermediate image;

forward project the generated set of image correction values to produce a correction raw data set;

reconstruct a correction image using the correction raw data set; and

add the correction image to an image to be corrected to produce a first corrected image.

29. (Original) A computer in accordance with Claim 28 further configured to:

produce a second corrected image;

compare the first and second corrected images to generate an intermediate corrected image representative of motion required to blend the first corrected image into the second corrected image; and

use the intermediate corrected image to further correct the first correct image.

30. (Currently Amended) An imaging system for facilitating a reduction in motion artifacts comprising:

a gantry comprising a radiation source and a radiation detector; and

a computer operationally coupled to said radiation source and said radiation detector, said computer configured to:

receive information from said detector array;

generate at least two sequential images from the received information; and

compare said at least two sequential images with an edge detection program to determine motion and generate a warped image grid.

31. (Original) An imaging system in accordance with Claim 30, wherein said radiation source comprises an electron beam source projecting an electron beam toward a target which emits x-rays toward said detector.

32. (Original) An imaging system in accordance with Claim 30, wherein said computer further configured to compare the two sequential images with an edge recognition program.

33. (Original) An imaging system in accordance with Claim 32, said computer further configured to develop a velocity image which shows a velocity vector for each pixel in an average image based on comparison of edge motions between the two original sequential scanned images.

34. (Original) A computer readable medium encoded with a program configured to:

estimate a velocity of at least one pixel of a first image by comparing the first image with a second image; and

correct a sinogram using the estimated velocity.

35. (Original) A medium in accordance with Claim 34 wherein said program further configured to:

generate a first corrected image using the corrected sinogram;

estimate a velocity of at least one pixel of the first corrected image by comparing the first corrected image with a third image comprising a corrected image;

correct a sinogram using the estimated velocity of the at least one pixel of the first corrected image.

36. (Original) An imaging system for facilitating a reduction in motion artifacts, said system comprising:

a gantry comprising a radiation source and a radiation detector, said radiation source comprising an electron beam source projecting an electron beam toward a target which emits x-rays toward said detector; and

a computer operationally coupled to said radiation source and said radiation detector, said computer configured to:

generate a velocity vector for a plurality of pixels of a first image; and

calculate a deltaH(t) for each pixel where deltaH(t) is a time variation of intensity in CT numbers as caused by motion.

37. (Original) A system in accordance with claim 36 wherein said computer further configured to:

forward project the deltaH(t)s to produce projection corrections for each line of a sinogram as a function of time; and

reconstruct a second image using the corrected sinogram.